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William A. Birdwell BIRDWELL, JANKE & DURANDO, PLC Suite 1400 1100 SW Sixth Avenue Portland, OR 97204			EXAMINER LOVEL, KIMBERLY M	
			ART UNIT 2167	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/666,633

Applicant(s)

OLSZAK ET AL.

Examiner

Kimberly Lovel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/03/04 11/19/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Status***

1. Claims 1-53 are pending.
2. Claims 1-53 are rejected.

### ***Priority***

3. The information disclosure statement (IDS) submitted on 12/03/2004 and 11/19/2003 were filed after the mailing date of the application on 9/18/2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig 1: items V, 13a, 14a, 16a and 18a (items 14a, 16a and 18a are mentioned in the specification as 114a, 116a and 118a); and Fig 9. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

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the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

5. The disclosure is objected to because of the following informalities:

Page 11, line 5 is missing a period at the end of the word "location."

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 26, 33, 40, 43, 46, 49 and 52 recite the limitation "further comprising providing a machine readable medium." The intention of the claim is unclear since a method claim should not further comprise of providing hardware.

***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 - 53 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**MPEP 2106 IV.B.2.(b)**

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application.

The claim recites a method for referencing image data, comprising the steps of: reviewing a portion of the image data; based on said reviewing, selecting from within said portion a point of reference; and creating an electronic link between said point of reference and another portion of the image data and a method for referencing image data, comprising producing at least one image record within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences.

In the above limitation, there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result.

For it to be a tangible result, it must be more than a thought or a computation and must have a real world value rather than being an abstract idea. The invention as recited in the claim creates an electronic link and pre-fetching data. It is unclear as to what kind of tangible output is obtained by these limitations.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 50-52 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No 6,941,323 to Galperin (hereafter Galperin).

**Claim 50:**

Referring to claim 50, Galperin discloses a method for referencing image data (see abstract and column 3, lines 50-54), comprising parametrically characterizing said portion of image data to obtain a characterizing vector, and searching for said portion by comparing said characterizing vector with a predetermined query vector (see column 2, lines 41-55).

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**Claim 51:**

Referring to claim 50, Galperin discloses the method of claim 50, wherein at least one of the steps of the method is executed by a computer (see column 10, lines 6-28).

**Claim 52:**

Referring to claim 50, Galperin discloses the method of claim 51, further comprising providing a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (see column 10, lines 6-28).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-6, 11, 17, 24-26, 31-33 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart (hereafter Hart) in view of US Patent No 7,010,742 to Hsu et al (hereafter Hsu et al).

**Claim 1:**

Referring to claim 1, Hart teaches a method of electronically linking images. In particular, Hart teaches a method for referencing image data (see abstract), comprising the steps of:

reviewing a portion of the image data (see [0018] and [0050]);

based on said reviewing, selecting from within said portion a point of reference (see [0019] and [0050] – within the streetscape the point of reference is the shop window); and

creating an electronic link between said point of reference and another portion of the image data (see [0033] and [0050]).

Hart teaches the overall concept of a method for referencing image data, however Hart fails to explicitly teach the details of reviewing a portion of the image data, based on said reviewing, selecting from within said portion a point of reference and creating an electronic link between said point of reference and another portion of the image data. Hsu et al teach a method for referencing multimedia documents (see abstract and column 5, lines 45-48), including the further limitations of



reviewing a portion of the image data (see column 5, lines 16-19 – linking to photo images; column 5, lines 49-50 – parsing source to identify a place for the link is considered to represent reviewing a portion of the image);

based on said reviewing, selecting from within said portion a point of reference (see column 5, lines 50-60 and column 6, lines 21-35); and

creating an electronic link between said point of reference and another portion of the image data (see column 6, lines 51-63 and column 8, lines 35-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents as a subcomponent to Hart's method for linking graphical environments. One would have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

**Claim 2:**

Referring to claim 2, the combination of Hart and Hsu et al (hereafter Hart/Hsu) teaches the method of claim 1, wherein at least one of the steps of the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 3:**

Referring to claim 3, Hart/Hsu teaches the method of claim 2, further comprising a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column

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12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

**Claim 5:**

Referring to claim 5, Hart/Hsu teaches the method of claim 1, wherein said link is a hyperlink, wherein said hyperlink points to said other portion of the image data (Hsu et al: see column 4, lines 17-26 – the hyperlinks relate a source, which is considered to represent a portion of the image to a destination which is considered to represent the *other portion of the data*).

**Claim 6:**

Referring to claim 6, Hart/Hsu teaches the method of claim 1, further comprising producing at least one image record (Hsu et al: see column 5, lines 15-19) within which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21), and searching for data objects within the image records connected by said links by examining said links (Hsu et al: see column 5, lines 30-34 – the display allows for examination of the links).

**Claim 11:**

Referring to claim 11, Hart/Hsu teaches the method of claim 1, further comprising producing a plurality of image records (Hsu et al: see column 5, lines 15-19 and column 7, lines 59-62 – there are a plurality of file names which are considered to represent the plurality of image records) between which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21), and searching for data objects connected by said links by

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examining said links (Hsu et al: see column 5, lines 30-34 – the display allows for examination of the links).

**Claim 17:**

Referring to claim 17, Hart/Hsu teaches the method of claim 1, further comprising creating a second electronic link in another image record as a result of recognizing the existence of said electronic link (see column 10, lines 1-33).

**Claim 24:**

Referring to claim 24, Hart teaches a method of referencing image data by creating hyperlinks (see abstract, [0018]-[0019], [0033] and [0050]). However, Hart fails to explicitly teach the further limitations wherein the method further comprises producing at least one image record within which are a plurality of electronic links to the image data, and searching for data objects within the image records connected by said links by examining said links. Hsu et al teach a method for referencing multimedia documents (see abstract and column 5, lines 45-48), including the further limitations of producing at least one image record (see column 5, lines 15-19) within which are a plurality of electronic links to the image data (see column 5, lines 19-21), and searching for data objects within the image records connected by said links by examining said links (see column 5, lines 30-34 – the display allows for examination of the links).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents as a subcomponent to Hart's method for linking graphical environments. One would

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have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

**Claim 25:**

Referring to claim 25, Hart/Hsu teaches the method of claim 24, wherein at least one of the steps of the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 26:**

Referring to claim 26, Hart/Hsu teaches the method of claim 25, further comprising a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column 12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

**Claim 31:**

Referring to claim 31, Hart teaches a method of referencing image data by creating hyperlinks (see abstract, [0018]-[0019], [0033] and [0050]). However, Hart fails to explicitly teach the further limitations wherein the method further comprises producing a plurality of image records within which are a plurality of electronic links to the image data, and searching for data objects within the image records connected by said links by examining said links. Hsu et al teach a method for referencing multimedia documents (see abstract and column 5, lines 45-48), including the further limitations of producing a plurality of image records (Hsu et al: see column 5, lines 15-19 and column 7, lines 59-

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62 – there are a plurality of file names) between which are a plurality of electronic links to the image data (Hsu et al: see column 5, lines 19-21), and searching for data objects connected by said links by examining said links (Hsu et al: see column 5, lines 30-34 – the display allows for examination of the links).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents as a subcomponent to Hart's method for linking graphical environments. One would have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

**Claim 32:**

Referring to claim 32, Hart/Hsu teaches the method of claim 31, wherein at least one of the steps of the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 33:**

Referring to claim 33, Hart/Hsu teaches the method of claim 32, further comprising providing a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column 12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

**Claim 53:**

Referring to claim 53, the machine readable medium embodying a program of instructions executable by the machine to perform a method for referencing image data is rejected on the same grounds as the method of claim 1 for referencing image data.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart in view of US Patent No 7,010,742 to Hsu et al as applied to claim 1 above, and further in view of US Patent No 5,436,637 to Gayraud et al (hereafter Gayraud et al).

**Claim 4:**

Referring to claim 4, Hart/Hsu teach the concept of linking data, however, Hart/Hsu fails to explicitly teach the further limitation of a roll-over link. Gayraud et al teaches a method of linking data objects, including the further limitation of a roll-over link. In particular, Gayraud et al discloses a method similar to that of claim 1, wherein said link is a roll-over link, the method further comprising adding metadata to the image data (see column 3, line 46 – column 4, line 5 –the concept of the system identifying the object with an appropriate descriptor hint when the screen cursor touches an object is considered to represent a *roll-over link*; the hints are considered to represent the *metadata*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gayraud et al's concept of roll-over links containing hints as one of the type of links utilized to reference image data in the method provided by Hart/Hsu. One would have been motivated to do so in order to increase the abilities of

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a search engine to identify visual features that relate to an image without having to transfer the user to a new document as is the case with hyperlinking (Hart: see [0002]).

12. Claims 7-9, 12-14, 27-29 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart in view of US Patent No 7,010,742 to Hsu et al as applied respectively to claims 7, 11, 24 and 31 above, and further in view of US Patent No 6,799,176 to Page (hereafter Page).

**Claim 7:**

Referring to claim 7, Hart/Hsu disclose the step of examining the links. However, Hart/Hsu does not explicitly teach the further limitation of computing respective metrics. Page discloses a method for scoring documents in a linked database. In particular, Page discloses a method similar to that of claim 6, wherein said step of examining includes computing respective metrics derived from said links for said data objects (see column 4, line 64 – column 5, line 30 and column 7, lines 11-20 – citation rank scores and importance scores are considered to represent the metrics).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Page's method of computing metrics as a subcomponent to Hart/Hsu's method of examining links. One would have been motivated to do so in order to increase accuracy in the step of link authoring (Hsu et al: see column 2, lines 7-25).

**Claims 12, 27 and 34:**

Referring to claims 12, 27 and 34, the method of claim 12, which is dependent on the method of claim 11; the method of claim 27, which is dependent on the method of claim 24; and the method of claim 34, which is dependent on the method of claim 31 are rejected on the same grounds as the method of claim 7, which is dependent on the method of claim 6.

**Claim 8:**

Referring to claim 8, the combination of Hart/Hsu and Page (hereafter Hart/Hsu/Page) teaches the method of claim 7, wherein said metrics are citation-rank scores, the method further comprising ordering said data objects according to the respective said citation-rank scores (see column 4, line 64 – column 5, line 30 – ranking is considered to represent ordering).

**Claims 13, 28 and 35:**

Referring to claims 13, 28 and 35 the method of claim 13, which is dependent on the method of claim 12; the method of claim 28, which is dependent on the method of claim 27; and the method of claim 35, which is dependent on the method of claim 34 are rejected on the same grounds as the method of claim 8, which is dependent on the method of claim 7.

**Claim 9:**

Referring to claim 9, Hart/Hsu/Page teaches the method of claim 7, wherein said metrics are importance scores, the method further comprising ordering said data objects



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according to the respective said importance scores (see column 7, lines 11-20 – ranking is considered to represent ordering).

**Claims 14, 29 and 36:**

Referring to claims 14, 29 and 36, the method of claim 14, which is dependent on the method of claim 12; the method of claim 29, which is dependent on the method of claim 27; and the method of claim 36 which is dependent on the method of claim 34 are rejected on the same grounds as the method of claim 9, which is dependent on the method of claim 7.

13. Claims 7 and 10; 12 and 15; 27 and 30; and 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart in view of US Patent No 7,010,742 to Hsu et al as applied respectively to claims 6, 11, 24 and 31 above, and further in view of the prior art admitted in US PGPub 2003/0074369 to Schuetze et al (hereafter Schuetze et al).

**Claim 7:**

Referring to claim 7, Hart/Hsu disclose the step of examining the links. However, Hart/Hsu does not explicitly teach the further limitation of computing respective metrics. Schuetze et al discloses a method for identifying similarities among objects in a collection. In particular, Schuetze et al discloses a method similar to that of claim 6, wherein said step of examining includes computing respective metrics derived from said links for said data objects (see [0013]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Schuetze et al's method of computing metrics with Hart/Hsu's method of examining links. One would have been motivated to do so in order to increase accuracy in the step of link authoring (Hsu et al: see column 2, lines 7-25).

**Claims 12, 27 and 34:**

Referring to claims 12, 27 and 34, the method of claim 12, which is dependent on the method of claim 11; the method of claim 27, which is dependent on the method of claim 24; and the method of claim 34 which is dependent on the method of claim 31 are rejected on the same grounds as the method of claim 7, which is dependent on the method of claim 6.

**Claim 10:**

Referring to claim 10, the combination of Hart/Hsu and Schuetze et al (hereafter Hart/Hsu/Schuetze) discloses the method of claim 7, wherein said metrics include at least one of hub and authority scores, the method further comprising ordering said data objects according to the respective said at least one of hub and authority scores (see [0013]).

**Claims 15, 30 and 37:**

Referring to claims 15, 30 and 37, the method of claim 15, which is dependent on the method of claim 12; the method of claim 30, which is dependent on the method of claim 27; and the method of claim 37, which is dependent on the method of claim 34 are

rejected on the same grounds as the method of claim 10, which is dependent on the method of claim 7.

14. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart in view of US Patent No 7,010,742 to Hsu et al as applied respectively to claims 1 and 17 above, and further in view of the article "Prefetching Hyperlinks" by Dan Duchamp (hereafter Duchamp).

**Claim 16:**

Referring to claim 16, Hart/Hsu discloses a method for creating an electronic link between a point of reference and another portion of the image data. However, Hart/Hsu fails to teach the further limitation of pre-fetching the data. Duchamp discloses a method for pre-fetching hyperlinked data (see abstract), including the further limitation of pre-fetching said other portion of the image data as a result of recognizing the existence of said electronic link (see section 2.1: Software Systems – each of the three examples pre-fetch the data based on the existence of a hyperlink).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Duchamp's method of pre-fetching hyperlinks with Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve client latency and wasted network bandwidth (see abstract).

**Claim 18:**

Referring to claim 18, Hart/Hsu discloses a method for creating a second electronic link in another image record as a result of recognizing the existence of said

electronic link. However, Hart/Hsu fails to disclose the further limitation of pre-fetching a data object. Duchamp discloses a method for pre-fetching hyperlinked data (see abstract). In particular, Duchamp discloses a method similar to that of claim 17, further comprising pre-fetching a data object as a result of recognizing the existence of said electronic link (Duchamp: see section 2.1: Software Systems – each of the three examples pre-fetch the data based on the existence of a hyperlink).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Duchamp's method of pre-fetching hyperlinks as a subcomponent to Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve client latency and wasted network bandwidth (see abstract).

15. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart in view of US Patent No 7,010,742 to Hsu et al as applied to claim 1 above, and further in view of the article "Mining Web Logs for Prediction Mod is in WWW Caching and Prefetching" by Yang et al (hereafter Yang et al).

**Claim 19:**

Referring to claim 19, Hart/Hsu discloses the method of claim 1, further comprising producing at least one image record (Hsu et al: see column 5, lines 15-19) within which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21), determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object

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as a result of recognizing said one or more most frequent navigation sequences.

However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for pre-fetching data (see abstract), including the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm), and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences (Yang et al: see section 5: Integrated Predictive Caching and Prefetching, lines 19-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and pre-fetching hyperlinks as a subcomponent to Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 20:**

Referring to claim 20, Hart/Hsu discloses the method of claim 1, further comprising producing at least one image record (Hsu et al: see column 5, lines 15-19) within which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21), determining from among a plurality of navigation sequences for navigating said image

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record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences.

However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for analyzing hyperlinks (see abstract) including the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm), and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences (see section 5: Integrated Predictive Caching and Prefetching).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and creating a new electronic link as a subcomponent to Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 21:**

Referring to claim 21, Hart/Hsu discloses the method of claim 1, further comprising producing a plurality of image records (Hsu et al: see column 5, lines 15-19 and column 7, lines 59-62 – there are a plurality of file names) between which are a

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plurality of electronic links (Hsu et al: see column 5, lines 19-21), determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm); and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences (Yang et al: see section 5: Integrated Predictive Caching and Prefetching, lines 19-22). However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for pre-fetching data (see abstract), including the further limitations of determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm), and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences (Yang et al: see section 5: Integrated Predictive Caching and Prefetching, lines 19-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and pre-fetching hyperlinks as a subcomponent to Hart/Hsu's method of creating links. One

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would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 22:**

Referring to claim 22, Hart/Hsu discloses the method of claim 1, further comprising producing a plurality of image records (Hsu et al: see column 5, lines 19-21) between which are a plurality of electronic links (Hsu et al: see column 5, lines 15-19 and column 7, lines 59-62 – there are a plurality of file names), determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for analyzing hyperlinks (see abstract) including the further limitations of determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences (see section 5: Integrated Predictive Caching and Prefetching).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and creating a new electronic link as a subcomponent to Hart/Hsu's method of creating links. One



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would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

16. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart in view of US Patent No 7,010,742 to Hsu et al as applied to claim 1 above, and further in view of by US Patent No 6,941,323 to Galperin.

**Claim 23:**

Referring to claim 23, Hart/Hsu discloses a method for referencing image data. However, Hart/Hsu fails to explicitly teach the further limitation of parametrically characterizing a portion of image data. Galperin teaches a method for referencing image data (see abstract and column 3, lines 50-54). In particular, Galperin discloses a method similar to that of claim 1, further comprising parametrically characterizing said portion of image data to obtain a characterizing vector, and searching for said portion by comparing said characterizing vector with a predetermined query vector (see column 2, lines 41-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Galperin's method for parametrically characterizing data as a subcomponent to Hart/Hsu's method of referencing images. One would have been motivated to do so in order to improve the proportion of relevant images retrieved (Galperin: see abstract).

17. Claims 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0048310 to Hart (hereafter Hart) in view of US Patent No 7,010,742 to Hsu et al in view of the article "Mining Web Logs for Prediction Mod is in WWW Caching and Prefetching" by Yang et al.

**Claim 38:**

Referring to claim 38, Hart teaches a method of electronically linking images. In particular, Hart teaches a method for referencing image data (see abstract, [0019], [0033] and [0050]), comprising producing at least one image record within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. However, Hart fails to explicitly teach the further limitations of producing at least one image record within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. Hsu et al teach a method for referencing multimedia documents (see abstract and column 5, lines 45-48), including the further limitation of producing at least one image record (Hsu et al: see column 5, lines 15-19) within which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents

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as a subcomponent to Hart's method for linking graphical environments. One would have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for pre-fetching data (see abstract), including the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm), and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences (Yang et al: see section 5: Integrated Predictive Caching and Prefetching, lines 19-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and pre-fetching hyperlinks as a subcomponent to Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 39:**

Referring to claim 39, the combination of Hart, Hsu et al and Yang et al (hereafter Hart/Hsu/Yang) discloses the method of claim 38, wherein at least one of the steps of

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the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 40:**

Referring to claim 40, Hart/Hsu/Yang discloses the method of claim 39, further comprising providing a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column 12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

**Claim 41:**

Referring to claim 41, Hart teaches a method of electronically linking images. In particular, Hart teaches a method for referencing image data (see abstract, [0019], [0033] and [0050]), comprising producing at least one image record within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. However, Hart fails to explicitly teach the further limitations of producing at least one image record within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. Hsu et al teach a method for referencing multimedia documents (see abstract and

column 5, lines 45-48), including the further limitation of producing at least one image record (Hsu et al: see column 5, lines 15-19) within which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents as a subcomponent to Hart's method for linking graphical environments. One would have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for analyzing hyperlinks (see abstract) including the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm), and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences (see section 5: Integrated Predictive Caching and Prefetching).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and creating a new electronic link as a subcomponent to Hart/Hsu's method of creating links. One

would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 42:**

Referring to claim 42, Hart/Hsu/Yang discloses the method of claim 41, wherein at least one of the steps of the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 43:**

Referring to claim 43, Hart/Hsu/Yang discloses the method of claim 42, further comprising providing a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column 12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

**Claim 44:**

Referring to claim 44, Hart teaches a method of electronically linking images. In particular, Hart teaches a method for referencing image data (see abstract, [0019], [0033] and [0050]), comprising producing a plurality of image records between which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. However, Hart/Hsu fails to explicitly teach the

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further limitations of producing a plurality of image records between which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image records one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. Hsu et al teach a method for referencing multimedia documents (see abstract and column 5, lines 45-48), including the further limitation of producing a plurality of image records (Hsu et al: see column 5, lines 15-19 and column 7, lines 59-62 – there are a plurality of file names) between which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents as a subcomponent to Hart's method for linking graphical environments. One would have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for pre-fetching data (see abstract), including the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing

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Association Rules; and section 3.4: Prediction Algorithm), and pre-fetching a data object as a result of recognizing said one or more most frequent navigation sequences (Yang et al: see section 5: Integrated Predictive Caching and Prefetching, lines 19-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and pre-fetching hyperlinks as a subcomponent to Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 45:**

Referring to claim 45, Hart/Hsu/Yang discloses the method of claim 44, wherein at least one of the steps of the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 46:**

Referring to claim 46, Hart/Hsu/Yang discloses the method of claim 45, further comprising providing a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column 12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

**Claim 47:**



Referring to claim 47, Hart teaches a method of electronically linking images. In particular, Hart teaches a method for referencing image data (see abstract, [0019], [0033] and [0050]), comprising producing plurality of image records within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. However, Hart fails to explicitly teach the further limitations of producing at least one image record within which are a plurality of electronic links, determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. Hsu et al teach a method for referencing multimedia documents (see abstract and column 5, lines 45-48), including the further limitation of producing a plurality image records (Hsu et al: see column 5, lines 15-19 and column 7, lines 59-62 – there are a plurality of file names) within which are a plurality of electronic links (Hsu et al: see column 5, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hsu et al's method for hyperlinking multimedia documents as a subcomponent to Hart's method for linking graphical environments. One would have been motivated to do so in order to increase the abilities of a search engine to identify visual features that relate to an image (Hart: see [0002]).

However, Hart/Hsu fails to explicitly teach the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences, and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences. Yang et al discloses a method for analyzing hyperlinks (see abstract) including the further limitations of determining from among a plurality of navigation sequences for navigating said image record one or more most frequent navigation sequences (Yang et al: see section 3: Building Association-Based Prediction Models, lines 1-5; section 3.3: Constructing Association Rules; and section 3.4: Prediction Algorithm), and creating a new electronic link as a result of recognizing said one or more most frequent navigation sequences (see section 5: Integrated Predictive Caching and Prefetching).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yang et al's method of navigation sequences and creating a new electronic link as a subcomponent to Hart/Hsu's method of creating links. One would have been motivated to do so in order to improve access performance (Yang et al: see abstract).

**Claim 48:**

Referring to claim 48, Hart/Hsu/Yang discloses the method of claim 47, wherein at least one of the steps of the method is executed by a computer (Hsu et al: see column 12, lines 34-38 – hardware; according to claim 1, the invention consists of a computer).

**Claim 49:**

Referring to claim 49, Hart/Hsu/Yang discloses the method of claim 48, further comprising providing a machine readable medium embodying a program of instructions executable by the computer to perform said at least one of the steps of the method (Hsu et al: see column 12, lines 34-38 – hardware and software; according to claim 1, the invention consists of a computer on which software modules are executed; and Hart: see [0007]).

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- WO 01/08083 to Gonzalez, R. titled Hyperimage System.

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**Contact Information**

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Kimberly Lovel  
Examiner  
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15 March 2006



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PRIMARY EXAMINER